Central bank independence in practice - an international comparison

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Central Bank Independence in Practice – an International Comparison

This paper makes an international comparison of central bank independence in various industrial countries. First, it distinguishes different aspects of central bank independence. Then, the paper reviews the theoretical arguments for and against independence of central banks. Furthermore, it discusses the legal and non-legal measures of central bank autonomy. Moreover, the paper questions how an independent central bank can be established. Therefore, it decomposes the legal indices of central bank independence and its relation to the level of inflation. Finally, some general conclusions are drawn.

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1. What is central bank independence?

The numerous recent theoretical and empirical studies suggesting that inflation and central bank independence are negatively related have been an important motivation for enhancing central bank independence (for a survey, see Eijffinger and De Haan, 1996). This study critically reviews the debate on central bank independence. It is noteworthy that most authors provide no clear definition of central bank independence.

According to Friedman (1962), central bank autonomy refers to a relationship between the central bank and the government which can be compared to the relationship between the judiciary and government. The judiciary can rule only on the basis of laws provided by the legislature, and it can be forced to rule differently only through a change in the law. In fact, central bank independence refers to three areas in which the influence of government must be excluded or drastically curtailed (see also Hasse, 1990):

- personal independence;
- financial independence;
- policy independence.

In practice, it is not feasible to exclude government influence completely when appointments are made to such an important public institution. So personal independence refers to the influence that government has in appointment procedures. It can be discerned on the basis of criteria like governmental representation in the governing body of the central bank, appointment procedures, term of office and dismissal of the governing board of the bank.

Furthermore, the government can influence the central bank if the government is able to finance its expenditure either directly or indirectly via central bank credits. In that case there is no financial independence. Direct access to central bank credits implies that monetary policy is subordinated to fiscal policy. Indirect access may result if the central bank is cashier to the government or if it handles the management of government debt.

Finally, policy independence is related to the manoeuvring room given to the central bank in the formulation and execution of monetary policy. As pointed out by Debelle and Fischer (1995) and Fischer (1995), it may be useful to distinguish between goal independence and instrument independence. With respect to goal independence, two related issues are important: the scope for the central bank to exercise its own discretion, and whether the central bank has monetary stability as its primary goal. If the central bank has been assigned various goals, such as low inflation and low unemployment, it has been accorded the greatest possible scope for discretion. In that case the central bank has goal independence since it is free to set the final goals of monetary policy. It could, for instance, decide that price stability is less important than output stability, and act accordingly. The central bank's discretionary powers may be restricted by giving it either general or specific objectives with respect to price stability. Finally, a central bank must wield effective instruments in order to defend its objective(s). A bank that has instrument independence is free to choose

the means by which it seeks to achieve its goals. Clearly, if government approval is required of the central bank's use of policy instruments, no instrument independence exists. Nowadays, the Reserve Bank of New Zealand, whose goal is precisely described in a contract with the government, has no goal independence; it does, however, have instrument independence, since it chooses the method by which it tries to achieve this goal.

2. Why central bank independence?

2.1 The arguments for independence

Many observers believe that countries with an independent central bank have lower levels of inflation than do countries with a central bank that comes under direct control of the government. Why would central bank independence, ceteris paribus, yield lower rates of inflation? The literature provides three answers to this question: public choice arguments, the analysis of Sargent and Wallace (1981) and arguments that are based on the time inconsistency problem of monetary policy.

According to the "older" public choice view, monetary authorities are exposed to strong political pressures to behave in accordance with the government's preferences. Monetary tightening aggravates the budgetary position of government: the reduction in tax income brought about by a temporary slowdown of economic activity, possibly lower receipts from "seigniorage", and the short-run increase in the interest burden on public debt all worsen the deficit. Thus, the government may prefer "easy money." Indeed, some evidence exists that even the relatively independent Federal Reserve caters to the desires of the President and/or the Congress. This evidence is either based on close inspection of the contacts between the polity and the central bank (see e.g. Havrilesky, 1993) or builds on tests to determine whether monetary policy turns expansive before elections as predicted by Nordhaus' (1975) political-business-cycle theory, or diverges under administrations with different political orientation, as predicted by Hibbs' (1977) partisan theory (see e.g. Alesina, 1988). At this stage, it suffices to conclude that, of course, the more independent a central bank

is, the less it will be under the spell of political influences as outlined above. It will be clear that this argument of Buchanan and Wagner relates primarily to personal independence and to policy independence. The more influential the government is in appointing board members, the more likely it will be that the central bank pursues the kind of policies desired by government.

There is a second argument to explain why central bank independence may affect inflation. This argument was first put forward by Sargent and Wallace (1981) who distinguish between fiscal and monetary authorities. If fiscal policy is dominant, i.e. if the monetary authorities cannot influence the size of the government's budget deficit money supply becomes endogenous. If the public is no longer able or willing to absorb additional government debt, it follows from the government budget constraint that monetary

authorities will be forced to finance the deficit by creating money. If, however, monetary policy is dominant, the fiscal authorities will be forced to reduce the deficit (or repudiate part of the debt). It is clear that the more independent the central bank is, the less monetary authorities can be forced to finance deficits by creating money. It is clear that this argument relates to financial independence.

A third, and indeed, the most prominent argument for central

bank independence is based on the time inconsistency problem (Kydland and Prescott, 1977; Barro and Gordon, 1983). Dynamic inconsistency arises when the best plan currently made for some future period is no longer optimal when that period actually starts. Various models have been based upon this dynamic inconsistency approach (see e.g. Rogoff, 1985; Cukierman, 1992; Eijffinger and Schaling, 1993 b). So in the literature devices have been suggested to reduce the inflationary bias. Barro and Gordon (1983) conclude that the best solution for the time inconsistency problem consists of the introduction of fixed rules in monetary policy, i.e. the authorities commit themselves to certain policy rules. Once uncertainty is introduced and the level of output is affected by shocks, the case becomes one for a feedback rule, in which monetary policy optimally responds to shocks. The problem with rules, however, is the absence of some higher authority to enforce a commitment. Handing over authority to the central bank by political authorities may help here, since it can be regarded as an act of partial commitment (Rogoff, 1985; Neumann, 1991 and Cukierman, 1992, chapter 18). By delegating some of their authority to a relatively apolitical institution, politicians accept certain restrictions on their future freedom of action.

The degree of central bank independence, of course, plays a meaningful role only if the central bank puts a different emphasis on alternative policy objectives than does the government. The literature points to two main differences (Cukierman, 1992, chapter 18). One relates to possible differences between the rate-of-time preference of political authorities and that of central banks. For various reasons, central banks are often more conservative and tend to take a longer view of the policy process than do politicians. The other difference concerns the subjective weights in the objective function of the central bank and that of the government. It is often assumed that central bankers are relatively more concerned about inflation than about other policy goals such as achieving high employment levels and adequate government revenues. If monetary policy is set at the discretion of a conservative central banker, a lower average time-consistent inflation rate will result. The foregoing analysis makes it clear that this argument for central bank independence is primarily related to policy independence.

2.2 The arguments against independence

It follows from the foregoing analysis that various theoretical arguments have been given in support of central bank autonomy. Two objections

have been raised against central bank independence: lack of democratic accountability and potential damage to policy coordination (Goodhart, 1994). The final sections of this chapter will deal with both these issues.

Accountability

An important problem is how central bank independence relates to democratic accountability. Some authors have argued that monetary policy is just like other instruments of economic policy, such as fiscal policy, and accordingly, should be fully determined by democratically elected representatives. Such an approach implies, however, a too direct involvement of politicians with monetary policy. Nevertheless, in every democratic society monetary policy ultimately has to be under the control of democratically elected politicians. Some way or another the central bank has to be accountable. Parliament is, of course, responsible for central bank legislation. In other words, the "rules of the game" (i.e. the objective of monetary policy) are settled in accordance with normal democratic procedures, but the "game" (monetary policy) is delegated to the central bank. Since Parliament can alter this legislation, the central bank remains under the ultimate control of Parliament.

Furthermore, in case the specified objective is not realized, the central bank or the politician who bears final responsibility through his power to overrule the bank's policy, could be made accountable.

Central bank independence and democratic accountability can be implemented in various ways. Each country organizes things differently. Three relatively independent central banks, namely the Deutsche Bundesbank, the Nederlandsche Bank and the Reserve Bank of New Zealand, exemplify the differences in approach. Five aspects of the division of responsibilities between the government and the central bank are important here (see Roll et al., 1993):

1. The ultimate objective(s) of monetary policy. The Reserve Bank of New Zealand has only one formal objective: price stability. Thus, the central bank has no goal independence. The Bundesbank has a similar prime objective that is, however, lent specific meaning (formally referred to as defence of the value of the currency). In addition, the Bundesbank has the obligation to offer general support to the government's economic policy in instances in which this does not prejudice the primary objective of price stability (BBankG 1957, section 12). However, this subsidiary statutory objective is de facto trivial and unimportant. The objective of the Nederlandsche Bank is to regulate the value of the Guilder in order to enhance welfare (Bank Law 1948, section 9.1). This objective is nowadays interpreted as a stable exchange rate of the Guilder vis-à-vis the Deutschmark.

2. Precision of target specification. The Governor of the Reserve Bank of New Zealand has to agree with the government on a tight target range for inflation for the next three years. The Bundesbank has no obligation to agree to, obey or announce any such targets. Since 1974, the Bank announces the targeted rate (or zone) for money growth, which implies an inflation target. The federal government is responsible for decisions about the exchange rate. This has been a reason for many conflicts between the Bundesbank and the government.

3. Statutory basis for independence. The Governor of the Central Bank of New Zealand must agree with the government about a target for inflation, but is free to choose his instruments (instrument independence; see Debelle and Fischer, 1995). The Central Bank in Germany is completely independent of any instructions from government. It may consult the government but it has no obligation to agree. Under section 13 of the BBankG 1957, government representatives have the right to at-

tend meetings of the Zentralbankrat, but not to vote. The Dutch Bank Law contains no specific articles on the statutory basis for independence.

4. Overriding the central bank. In New Zealand, the Governor of the Central Bank can be dismissed if he fails to deliver the inflation target (obligation ad hominem). The contract contains some clearly identified escape clauses (like a rise in indirect taxes, or change in exchange rate regime). In Germany, the government can suspend decisions of the Bundesbank for a maximum of two weeks (BBankG 1957, section 13). This temporary veto has never been formally deployed. Only through a change in the relevant legislation by a simple majority in Parliament can the Bundesbank be overruled by the government. The Zentralbankrat is responsible for monetary policy (collective responsibility). The Netherlands has a unique central bank legislation. According to section 26 of the Bank Law of 1948, the Minister of Finance has the right to give a so-called "instruction" to the Bank with regard to monetary policy. The right to give instructions makes the Minister responsible for monetary policy vis-à-vis Parliament.

5. Appointment of bank officials. Both the Minister and the Board of the Central Bank must ratify the appointment of the Governor of the Reserve Bank of New Zealand (double veto). Board appointments are made by the Finance Minister. The Deputy Governor is appointed by the Board, on recommendation of the Governor. The Central Bank Council (Zentralbankrat) is the Governing Board of the Bundesbank. Apart from the so-called Directorate (Direktorium), the Presidents of the nine Landeszentralbanken are members of the Zentralbankrat. The Direktorium is comprised of the President, the Vice-President and nowadays a maximum of six other members, which are appointed by the President of the Federal Republic on nomination of the federal government. The Zentralbankrat is consulted in this process. The Presidents of the Landeszentralbanken are nominated by the Bundesrat (the upper federal chamber), based on recommendations from governments of the Länder. The Zentralbankrat is then again consulted. The President and the Director-Secretary of the Dutch Central Bank are appointed by the Minister of Finance, on the basis of a recommendation list containing only two names, which have been decided upon in a combined meeting of the Governing Board and the Supervisory Board of the Bank (Bank Law, section 23). The other members of the Governing Board are also appointed by the Minister, on the basis of a recommendation list containing three names, again decided upon by the Governing and

Table 1

Alternative Approaches to Central Bank Independence and Accountability

	Deutsche Bundesbank	Reserve Bank New Zealand	Nederlandsche Bank
Policy objective:			
price stability	primary objective	sole objective	if welfare enhancing
supporting government economic policy	secondary objective	–	–
government override	only implicit (new law)	provision in current law	right to give instruction
Policy targets:			
obligatory	no	yes	no
agreed with government	no	yes	no
escape clauses	no	yes	no
time horizon	no	three years	no
Responsibility:			
laid upon	Central Bank Council	Governor of the Central Bank	implicitly with Minister
monitoring	only implicit	dismissal of Governor for failure	through Royal Commissioner

Source: based upon Roll et al. (1993) and the Dutch Central Bank Law, 1948.

Supervisory Boards. The so-called Royal Commissioner is responsible for supervision on behalf of the government; he is also appointed by the Minister (Bank Law, sections 30; 31).

Table 1 summarizes the preceding analysis. This table indicates that central bank independence in a democratic society can be implemented in different ways. According to the Maastricht Treaty, the European Central Bank (ECB) will become responsible for monetary policy within the European Economic and Monetary Union. An important objection that has been raised to the ECB is its lack of accountability. Indeed, the statutes of the ECB imply that the democratic accountability of the ECB is poorly arranged, compared with the accountability of the central banks of the countries examined in this survey. This is also the case in comparison with the Bundesbank, since the mandate of the ECB can only be changed through an amendment of the Treaty, which requires unanimity. In contrast, the Bundesbank always has to take into account the possibility of a change of the law. Through this mechanism the Bundesbank will, in the long run, follow a policy that is in line with the preferences of democratically elected politicians. In the Netherlands this political approval is arranged differently, but in this country the central bank also pursues policies that generally enjoy broad political and popular support.

Coordination of policies

Apart from the lack of democratic accountability, potential problems regarding the coordination of economic policies have been put forward as an important argument against central bank independence. Whereas most theoretical models discussed so far make no clear distinction between monetary and fiscal policy, other theoretical studies concentrate on the conflicts that can arise when monetary and fiscal policy are delegated to independent institutions. The government controls fiscal policy and the central bank controls monetary policy. Policymakers both set goals for the economy and choose their own priorities. The government and the central bank can either cooperate in imple-

menting their policies or choose not to cooperate. Andersen and Schneider (1986) distinguish three different models of the economy. The first model is Keynesian, in which even anticipated policy affects the level of output and inflation. In the second model, which Andersen and Schneider refer to as Keynesian-New Classical, anticipated monetary policy is neutral; it can affect only inflation. In the third, which is referred to as New Classical model, both anticipated monetary and fiscal policy affect only inflation and not output. Both the government and the central bank establish targets for inflation and output. Andersen and Schneider compare the economic outcomes under cooperation with those under non-cooperation. Although the equilibrium level of output and the rate of inflation vary depending on the model used, in all three models the cooperative solution is Pareto superior to the non-cooperative solution. Furthermore, this result is invariant to the structure of noncooperation, i.e. Nash or Stackelberg. Andersen and Schneider (1986) conclude that "two independent policymakers do not automatically guarantee a policy outcome which is preferred to other outcomes under different institutional solutions" (p. 188). Similar conclusions have been drawn by other authors (see e.g. Hughes Hallett and Petit, 1990 and Blake and Westaway, 1993).

However, several comments are in order (see Pollard, 1993). First, many of these models take no account of a third "player", i.e. trade unions or the general public. The perception of economic subjects of the credibility of announced policies is, however, important for macroeconomic outcomes, as we have already seen. Second, most of these studies do not examine the sustainability of fiscal policy. As pointed out before, Sargent and Wallace (1981) have analyzed this issue, showing that, if the government embarks on a path of unsustainable deficits, the central bank might eventually be forced to inflate to cover the deficit. If the public realizes that the government debt is on such a path, it will expect inflation to increase which may cause inflation to increase well before some debt limit has been reached. Third, there is uncertainty about the macroeconomic models used by the policymakers. Frankel and Rockett (1988) have argued that this model uncertainty may eventually yield negative outcomes for the case in which the policymakers cooperate. Finally, many models analyzing coordination of monetary and fiscal policy equate central bank independence with non-cooperation between the fiscal and monetary authorities in policy implementation. This definition differs from the concept underlying empirical indices for central bank independence as discussed in the following chapter.

3. How to measure central bank independence

It is rather difficult to measure the degree of legal independence of various central banks, let alone the degree of their actual independence of the government. Cukierman (1992) has pointed out that actual, as opposed to formal independence, hinges not only on legislation, but also on a myriad of other factors such as informal arrangements with government, the quality of the personnel of the bank, and the personal characteristics of key individuals in the bank. Obviously, these other factors are virtually impossible to

quantify. Most of the existing research has, therefore, focused on legal independence and is restricted to industrial countries.

3.1 Legal measures of central bank independence

Table 2 presents four measures of central bank independence, as developed by Alesina (1988, 1989), Grilli, Masciandaro and Tabellini (1991), Eijffinger and Schaling (1992, 1993a) and Cukierman (1992), respectively. For the various indices the following rule applies: the higher the score, the more independent the central bank is. The measures of Alesina and Eijffinger-Schaling range from 1 to 4, and from 1 to 5, respectively. The index of Grilli, Masciandaro and Tabellini is the total of their indicators for political and economic independence (see below for further details). The lowest actual score is 3, the highest value amounts to 13. The value for their index of political independence is shown in parentheses. This measure ranges from 0 to 6. The index of Cukierman varies between 0 and 1.

Although the various indicators are all based on a similar approach, it follows from table 2 that they show sometimes very different outcomes. For instance, according to the measure of Grilli, Masciandaro and Tabellini, the Greek Central Bank has little autonomy, whereas this bank is relatively independent according to the ranking of Cukierman (1992). The remainder of this chapter briefly reviews these indicators; the appendix provides more detailed information.

The pioneering attempt to codify legal central bank independence of Bade and Parkin (1988) was extended by Alesina (1988, 1989). This index focuses on questions like: Does the central bank have final authority over monetary policy? Are there government officials on the governing board of the bank? Are more than half of the board members appointed by government?

Grilli, Masciandaro and Tabellini (1991) present indices of political and economic independence. The first part focuses on appointment procedures for board officials, the length of their term of office and the existence of the statutory requirement to pursue monetary stability. The economic independence indicator focuses on the extent to which

the central bank is free from government influence in implementing monetary policy. Generally, the total score on the political and economic independence is employed as indicator for legal central bank independence.

Eijffinger and Schaling (1992, 1993) have constructed an index which is based on three issues: the location of the final responsibility for monetary policy, the absence or presence of a government official on the board of the central bank and the fraction of board appointees made by government. Central bank laws in which the central bank is final authority get a double score in this index.

Cukierman (1992) and Cukierman, Webb and Neyapti (1992) provide an index which is aggregated from sixteen basic legal characteristics of central bank charters which are grouped into four clusters: 1. the appointment, dismissal and legal term of office of the governor of the

Table 2

Legal Indices for Central Bank Independence

	Alesina	Grilli, Masciandaro and Tabellini[1])	Eijffinger-Schaling	Cukierman (LVAU)
Australia	1	9 (3)	1	0.31
Austria	–	9 (3)	3[2])	0.58
Belgium	2	7 (1)	3	0.19
Canada	2	11 (4)	1	0.46
Denmark	2	8 (3)	4[2])	0.47
Finland	2	–	3[2])	0.27
France	2	7 (2)	2	0.28
Germany	4	13 (6)	5	0.66
Greece	–	4 (2)	–	0.51
Iceland	–	–	–	0.36
Ireland	–	7 (3)	–	0.39
Italy	1.5	5 (4)	2	0.22
Japan	3	6 (1)	3	0.16
Netherlands	2	10 (6)	4	0.42
New Zealand	1	3 (0)	3[2])	0.27
Norway	2	–	2[2])	0.14
Portugal	–	3 (1)	2[2])	–
Spain	1	5 (2)	3[2])	0.21
Sweden	2	–	2	0.27
Switzerland	4	12 (5)	5	0.68
United Kingdom	2	6 (1)	2	0.31
United States	3	12 (5)	3	0.51

[1]) The measure of Grilli, Masciandaro and Tabellini is the index for political and economic independence. Their index for political independence is shown in parentheses.

[2]) These extensions of the Eijffinger-Schaling index are based upon Eijffinger and Van Keulen (1995). The ranking of these countries refers to relatively new central bank laws (adjusted during the last ten years), except for Denmark.

central bank; 2. the institutional location of the final authority for monetary policy and procedures for resolution of conflicts between the government and the bank; 3. the importance of price stability in comparison to other objectives; 4. the stringency and universality of limitations on the ability of government to borrow from the central bank.

3.2 A comparison of legal independence measures

Although all measures are, in principle, similar, they yield rather different outcomes. This impression is confirmed by table 3, which shows Kendall's rank correlation coefficients of the various measures. The Spearman rank correlation is shown in parentheses. Note especially the low correlation between the measure of Grilli, Masciandaro and Tabellini, and Cukierman, on the one hand, and the Eijffinger-Schaling index, on the other.

At least two explanations can be put forward for these diverging outcomes. First, the interpretation of the relevant bank laws differs. In general, one could say that for those countries an author is most familiar with, different rankings will occur.

Table 3

Rank Correlation Coefficients of Indices of Central Bank Independence

	Alesina	Grilli, Masciandaro and Tabellini	Eijffinger-Schaling	Cukierman (LVAU)
Alesina	1	0.58 (0.69)	0.71 (0.78)	0.38 (0.44)
Grilli, Masciandaro and Tabellini	–	1	0.36 (0.48)	0.52 (0.63)
Eijffinger-Schaling	–	–	1	0.20 (0.35)
Cukierman (LVAU)	–	–	–	1

For instance, Alesina (1988, 1989) disagreed with Bade-Parkin's ranking for Italy. However, this did not lead to an upgrade of the Banca d'Italia, but to a lower ranking. Eijffinger and Schaling (1992) conclude that, apparently, Alesina (1988, 1989) used implicitly a fourth criterion for Italy, namely whether the central bank was obliged to accommodate the government budget deficit. However, Alesina does not apply this criterion to the other countries in his sample. In discussing the index of Grilli, Masciandaro and Tabellini, Malinvaud (1991) argues that the Banque de France has been given a higher degree of independence than it actually merits, since the Governor could be removed at any time by decision of the French government. In a similar vein, we have some doubts with respect to Cukierman's (1992) interpretation of the Dutch Central Bank ("Bankwet 1948"), with which we are most familiar.

A second reason for the diverging outcomes of various indicators is that various measures focus on different aspects of central bank independence. Eijffinger and Schaling (1993a) criticize the measure of Grilli, Masciandaro and Tabellini (1991), because the rather large number of criteria these authors apply erodes the weight of the important criteria, e.g. the objectives for the central bank and appointing procedures ("watering down"). The indicator of Cukierman may also be criticized in this respect. His aggregation procedures imply that the criteria that we believe to be most important in determining central bank autonomy (i.e. the variables in clusters 1 and 3) get a relatively low weight.

More generally, one could compare these indices with respect to the four aspects of central bank independence as outlined in Chapter 1. Table 4 compares the various indices that have been discussed. This table shows how the various indicators focus upon different aspects of central bank independence: personal independence, financial independence, and policy independence which can be distinguished in instrument independence and goal independence.

Table 4

Aspects of Central Bank Independence

a Comparison of Four Indicators

Measure	Alesina (AL)	Grilli, Masciandaro, Tabellini (GMT)	Eijffinger-Schaling (ES)	Cukierman (LVAU)
maximum total score:	4	16	5	1.00
personal independence	2/4	6/16	2/4	2/10
financial independence	1/4	5/16	--	5/10
policy independence	1/4	5/16	2/4	3/10
of which:				
– instrument independence		3/16		3/20
– goal independence		2/16		3/20

3.3 Non-legal measures of central bank independence

Cukierman (1992) and Cukierman, Webb and Neyapti (1992) have also developed a yardstick for central bank autonomy based on the actual average term of office of central bank governors in different countries during the period 1950–1989. This indicator is based on the presumption that, at least above some threshold, a higher turnover of central bank governors indicates a lower level of independence. The idea

behind this measure is that, even if the central bank law is quite explicit, it may not be operational if a different tradition has precedence. A striking example is Argentina, where the legal term of office of the central bank Governor is four years, but where it is also an informal tradition that the Governor will resign whenever there is a change of government, or even a new finance minister. Consequently, the actual average term of office of the Governor of the central bank amounted to only ten months during the 1980s. This example suggests that the turnover rate of central bank governors may be a good indicator for the degree of central bank autonomy. Table 5 presents the average turnover rate of central bank governors for 55 countries during the forty years ending in 1989, for both OECD countries and some developing countries. From table 5 two conclusions can be drawn. First, the turnover rate differs greatly across countries and varies between 0.03 (Iceland) and 0.93 (Argentina). Second, the average and standard deviation of the turnover rate in developing countries are much higher than the corresponding measures for OECD countries. The average turnover rate in the industrial countries amounts to 0.13; the average for the developing countries is 0.28. The highest turnover rate in the OECD countries (excluding Turkey) is 0.2 for Spain and Japan. So, this

Table 5

The Turnover Rate of Central Bank Governors, 1950–1989

OECD countries		Developing countries	
Belgium	0.13	Argentina	0.93
Canada	0.10	Bahamas	0.19
Denmark	0.05	Barbados	0.11
Finland	0.13	Botswana	0.41
France	0.15	Chile	0.45
Germany	0.10	Colombia	0.20
Greece	0.18	Costa Rica	0.58
Iceland	0.03	Egypt	0.31
Ireland	0.15	Ethiopia	0.20
Italy	0.08	Ghana	0.28
Japan	0.20	Honduras	0.13
Luxembourg	0.08	India	0.33
Netherlands	0.05	Israel	0.14
New Zealand	0.15	Kenya	0.17
Norway	0.08	Lebanon	0.19
Spain	0.20	Malaysia	0.13
Sweden	0.15	Malta	0.28
Switzerland	0.13	Mexico	0.15
Turkey	0.40	Nigeria	0.19
United Kingdom	0.10	Panama	0.24
United States	0.13	Peru	0.33
		Philippines	0.13
		Singapore	0.37
		South Africa	0.10
		South Korea	0.43
		Tanzania	0.13
		Thailand	0.20
		Uganda	0.34
		Uruguay	0.38
		Venezuela	0.30
		Zaire	0.23
		Zambia	0.38
		Zimbabwe	0.15
Average:	0.13	Average:	0.28
Standard deviation:	0.08	Standard deviation:	0.17

Source: Cukierman (1992); the (previously) Communist countries are not included.

measure of central bank autonomy hardly discriminates between central banks of industrialized countries.

It follows from the foregoing analysis that existing indices of central bank independence are often incomplete and noisy indicators of actual independence. However, this does not mean that they are uninformative. But, as pointed out by Cukierman (1995), it does imply that their use should be supplemented by judgement in the light of the problem under consideration. In particular, some indices are more appropriate for some purposes than for others. For instance, legal independence measures may be a better proxy for actual independence in industrial countries than in developing countries. In some cases, various proxies may be usefully combined to get a fuller picture, since they capture different aspects of central bank independence. Legal measures of central bank independence are more likely to be exogenous with respect to the economy. However, due to little variation over time they generally have poor explanatory power for developments in economic variables within countries. Therefore, most empirical studies on the consequences of central bank independence are of a cross-section nature.

4. How to establish an independent central bank

4.1 The European Central Bank

According to the Maastricht Treaty, a European System of Central Banks (ESCB) shall be established at the latest on 1 January 1999 consisting of the European Central Bank (ECB) and the national central banks of all Member States of the European Union. The Treaty together with the Protocol on the Statute of the ESCB and of the ECB provide a solid legislative base for the common monetary policy in the Economic and Monetary Union. Furthermore, it spells out various provisions to guarantee the independence of the ESCB and ECB. As a matter of fact, their statutes are largely modelled after the law governing the Deutsche Bundesbank. First, the primary objective of the ESCB shall be to maintain price stability. Without impairing this primary objective, the ESCB also has to support the general economic policies in the Union. Second, the Governing Council of the ECB, comprising the members of the Executive Board and the Governors of the national central banks, will formulate monetary policy within the EMU. The Executive Board consists of the President, the Vice-President and four other members and will implement European monetary policy. Its members will be appointed by the Heads of State and Government, on a recommendation from the Council of Ministers of Economics and Finance, after consulting the European Parliament and the Governing Council of the ECB. Their term of office shall be eight years and their mandate is not renewable. Third, neither the ECB, nor a national central bank shall seek or take instructions from institutions of the Union, from any government or from any other body. Also, each national central bank has to be independent at the latest at the date of the establishment of the ESCB. This implies, among others, that the Governor of each national central bank will have a minimum term of office of five years and can only be removed from office if he no longer fulfils the conditions required for his performance as a Governor or in case of serious misconduct.

Apparently, the governments of the European Union have opted in the case of the ECB for the legislative approach, namely to create by law a very independent central bank with a clear mandate to focus on price stability. Nevertheless, it should be emphasized that legal independence is a necessary but not a sufficient condition for the actual independence of a central bank. Actual independence implies a tradition and culture of monetary stability not only within the central bank but also within government and Parliament. Such a tradition and culture will not be established overnight in the EMU. Naturally, the legal independence of the ECB will be the basis for earning its credibility and reputation. This reputation in the financial markets will be best achieved in "bad weather" (low economic growth) rather than in "good weather" (high economic growth). Only in periods of low (or even negative) economic growth can an independent central bank prove its decisiveness to stick to the ultimate goal of price stability by not accommodating inflationary pressures from politicians, labour unions and other economic agents. Then, this stubbornness of the central bank not to inflate and to stimulate economic growth will pay in the long run because of its greater reputation in the financial markets and, thereby, of the less restrictive monetary policy which this central bank can afford in the future. The mobility of international capital flows and the integration of financial markets in most industrial countries have made the credibility and reputation of the central bank its only instrument of monetary policy. This will apply a fortiori to the ECB. Therefore, European politicians and other policymakers should refrain as much as possible from policy advice to the future ECB. Otherwise, they force the central bank to prove its reputation unwillingly by a more than necessary restrictive monetary policy.

4.2 The national central banks

Furthermore, some remarks could be made on the "sixth convergence criterion": the legal and actual independence of the national central banks in the European Union. According to the Maastricht Treaty, the national central banks should be independent just before entering Stage Three of EMU. This pre-condition follows logically from the absorption of the national central banks into the ESCB and the participation of the Governors in the Governing Council of the ECB, without seeking or taking instructions of national governments or parliaments. Within the European Union, the Deutsche Bundesbank and the Nederlandsche Bank are generally considered to be the most independent central banks. Except in the case of France and Spain, there is not so much progress in this field. The independence of the Banco de España has recently been increased by the Central Bank Law of 1 February 1993, which is modelled after the Statute of the ECB. The law was passed by the Spanish parliament in October 1993 and made the Banco de España formally as independent as the Bundesbank. On 20 April 1993, the then French Minister of Finance Alphandéry announced a bill for making the Banque de France independent by changing its task in defining and putting into effect monetary policy with the aim of assuring the stability of prices "within the context of the general economic policy of the government". Also,

on 5 January 1994, the French government named the six lay people who would join the Governor and two Vice-Governors of the Banque de France on the Monetary Policy Committee. Although Mr. Alphandéry said that the independence of the Banque de France was now "at least equal to that of the Bundesbank", one may conclude that its autonomy is not guaranteed in the same sense. In particular, the central banks of Finland, Greece, Ireland, Italy, Portugal, and Sweden still have to be made legally independent of their national governments and parliaments. Public debate in the United Kingdom leaning toward more independence for the central bank (see Roll et al., 1993) has recently led to the decision of the new Labour government to give the Bank of England "operational independence", i.e. the authority to determine (short-term) interest rates (see The Financial Times, 1997). So, the Bank of England has now instrument independence but still no goal independence.

Table 6

Difference Between the Questionnaire Index and the Average Legal Index of Central Bank Independence

	Questionnaire index (QVAU)[1]	Average normalized legal index (ANL)[2]	Difference (QVAU-/-ANL)
Australia	0.73	0.23	0.50
Belgium	0.53	0.33	0.20
Denmark	0.70	0.55	0.15
Finland	0.75	0.36	0.39
France	0.65	0.31	0.34
Germany	1.00	1.00	0.00
Ireland	0.51	0.44	0.07
Italy	0.76	0.19	0.57
United Kingdom	0.60	0.30	0.30

[1] The unweighted questionnaire index is based on responses to a questionnaire containing questions on various aspects of central bank independence from qualified individuals in various central banks. See Cukierman (1992), Chapter 19.

[2] The average normalized legal index is the unweighted average of the normalized indices of Alesina (AL), Grilli, Masciandaro and Tabellini (GMT), Eijffinger-Schaling (ES) and Cukierman (LVAU). It should be emphasized that for France and the United Kingdom the old central bank law applies.

Table 6 shows the difference between the unweighted questionnaire index of Cukierman (1992) and the average normalized legal index of central bank independence as calculated by us. The average normalized legal index (ANL) is the unweighted average of the normalized indices of Alesina (AL), Grilli, Masciandaro and Tabellini (GMT), Eijffinger-Schaling (ES) and the unweighted legal index of Cukierman (LVAU). The unweighted questionnaire index (QVAU) is based on responses to a questionnaire containing questions on various aspects of central bank independence from "qualified individuals in various central banks" (see Cukierman, 1992, Chapter 19). The questionnaire was made up of questions on the following five groups of issues: (1) legal aspects of central bank independence, (2) actual practice when it differs from the stipulation of the law, (3) monetary policy instruments and the agencies controlling them, (4) intermediate targets and indicators, and (5) final objectives of monetary policy and their relative importance. Responses were obtained for twenty-four OECD and developing countries. Next to the rather low number of responses, there is a drawback that the questionnaire index is based on the

subjective judgement of qualified but different individuals at various central banks. Furthermore, it is in the interest of these central bankers to give a more favourable picture of the autonomy of their central bank than its real independence. Also, for the questionnaire index the following applies: the higher the score, the more independent the central bank is considered to be according to its own officials. The questionnaire index is normalized and ranges in this table from 0.51 (Ireland) to 1.00 (Germany). If we assume that the average normalized legal index is a good approximation of the actual central bank independence in practice, then the difference between the questionnaire index and the average legal index (QVAU-/-ANL) could be interpreted as the degree of over-estimation of the independence of the central bank by its own officials. Evidently, the Bundesbankers do not suffer from a misperception of the position of their own institution. This is, however, not the case for the other central bankers. In particular, the officials of the Banca d'Italia exaggerate largely their own autonomy (0.57). These differences in perception make the discussion on whether or not a national central bank is sufficiently independent according to the Maastricht Treaty elusive and sometimes even confusing.

4.3 Decomposition of central bank independence

In establishing an independent central bank it is, of course, necessary to know what are the most important aspects of independence from an empirical perspective. This could serve as a guiding principle for changing the central bank law in Member States of the European Union and other industrial countries.

Table 7 presents the regressions for seventeen (GMT) and twenty-one (LVAU) industrial countries respectively of the level of inflation on the different aspects of central bank independence: goal independence, instrument independence, personal independence and financial independence. In case of the measure of Grilli, Masciandaro and Tabellini (1991), the lack of goal independence (that is, a mandate to maintain price stability) and instrument independence is most closely tied to inflation performance, whereas personal independence is not significantly related to inflation (for more details, see Debelle and Fischer, 1995). Decomposition of the legal independence measure of Cukierman (1992) and testing the relation of its components to inflation leads to the conclusion that only independence with respect to instruments matters for inflation performance (see Eijffinger and De Haan, 1996). The proxy for instrument independence is the sum of the variables in the policy formulation cluster (second cluster), except for whether the central bank has an active role in the formulation of the government's budget (which has little to do with central bank independence). So, instrument independence means in this respect who formulates monetary policy and who has the final word in the resolution of conflict. These features are, as commonly known, the essential characteristics of an independent central bank.

4.4 Evaluation

Of course, the lack of autonomy for national central banks in some Member States will certainly jeopardize the smooth functioning of the ECB and, thereby, the transition of these countries to Stage Three. It is hard to

Table 7

Decomposition of Legal Indices of Central Bank Independence and its Relation to the Level of Inflation[1])

	Goal independence	Instrument independence	Personal independence	Financial independence
Grilli, Masciandaro and Tabellini (GMT)	−1.76 (1.02) −2.28 (1.42)	−1.02 (2.04)* −1.02 (2.04)*	−0.41 (0.91) –	– –
Cukierman[2]) (LVAU)	2.33 (1.12) 2.13 (1.10)	−2.27 (2.01)* −3.02 (3.83)**	−0.16 (0.26) −0.36 (0.58)	−0.58 (0.95) –

[1]) *T-statistics are in parentheses. One and two asterisks denote significance at 5% and 1% level, respectively. See also, Eijffinger and De Haan (1996).*

[2]) *The proxy for personal independence is the sum of all variables in the first cluster of variables as distinguished by Cukierman (1992). That for instrument independence is the sum of variables in the second cluster. Goal independence is Cukierman's score for the third cluster and financial independence for the fourth cluster.*

imagine that this will be acceptable for the stability-oriented countries. Moreover, the timing of giving national central banks legal independence is much too late, because formal independence does not immediately imply a tradition of autonomous decision-making at the central bank. Legal responsibility for monetary policy should be accompanied by a culture of stability at the central bank, marked by a long-term policy horizon. However, it takes time for a central banker to learn to behave independently from politics ("Thomas Becket effect"; see Neumann, 1991 and Issing, 1993). Therefore, those of the earlier mentioned countries which have a reasonable chance to enter Stage Three of EMU in 1999 or soon after should make their central bank independent by law as quickly as possible. Otherwise, the "sixth convergence criterion" could prove to be a new bottleneck for them to join Stage Three of EMU.

5. Conclusion

This paper has critically discussed the theoretical and empirical literature on central bank autonomy. Our discussion of various measures of central bank independence made it clear that all measures have their limitations. Furthermore, if we compare the questionnaire index with the average legal index of central bank independence, there seems to be an overestimation of the independence of the central bank by its own officials in many countries.

Is the only good central bank one that can say "no" to the politicians? An independent central bank is not a sufficient and/or a necessary condition for price stability. In accordance with the theoretical literature and empirical studies (see Eijffinger and De Haan, 1996), we must conclude, however, that a country with an independent central bank, ceteris paribus, will have a lower rate of inflation than does a country where politicians can steer the central bank's policy. In particular, low inflation is related to instrument independence, that is the formulation of monetary policy and the final authority in the resolution of conflict. Attaining lower inflation rates bears no costs in terms of lower long-term economic growth. So, in principle, we may answer the above-mentioned question positively. The tendency towards greater central

bank autonomy which can, currently, be perceived in many countries should, in our opinion, thus be regarded positively.

The tendency towards central bank autonomy may conflict with the goal of accountability of central banks. In the short run, there seems to be a trade-off between central bank independence and accountability. We believe that such a trade-off, however, does not exist in the longer run. A central bank, continuously conducting a policy which lacks broad political support, will sooner or later be overridden. At the same time, our conclusion underscores the importance of broad public support for a central bank's autonomy and its anti-inflationary policy. Although the determinants of central bank independence (for a survey, see Eijffinger and De Haan, 1996) have only recently been investigated, current research leads us to the conclusion that every society gets the central bank it deserves. This conclusion implies also that just a change of the central bank law is insufficient to guarantee structurally lower levels of inflation. Only in case of wide-spread and overwhelming support for anti-inflation policy by an independent central bank, will inflation effectively be reduced. The policy to give the Banque de France a more independent position, for example, is backed both by the government, as well as by the opposition parties. After the failed experiment of an expansionary policy in France at the beginning of the 1980s, governments of alternating political composition have chosen for a monetary policy strongly focused on Germany. In such circumstances, the development towards a more independent central bank is a logical step. This could also apply to the case of Austria (for an analysis, see Hochreiter, 1990 and 1994). ❧

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Appendix: Legal measures of central bank independence

The measure of Alesina (1988, 1989) is based primarily on an unpublished paper by Bade and Parkin (1988) which classified central banks into four groups, with a score of 1 (most dependent) to 4 (most independent). Bade and Parkin analyze central bank laws applying the following criteria:

1. Is the central bank the final authority?
2. Is there no government official (with or without voting power) on the bank policy board?
3. Are more than half of the policy board appointments made independently of the government?

For central banks with the highest degree of autonomy, the second question is answered in the negative, and the questions 1 and 3 in the affirmative. Bade and Parkin (1988) find the following ordering: type 1: Australia; type 2: Belgium, Canada, France, Italy, the Netherlands, Sweden and the United Kingdom; type 3: Japan, United States; and type 4: Germany and Switzerland. The numerical values of the Alesina index are identical to those of the Bade-Parkin index, except for the case of Italy. This different evaluation is based on the divorce ("divorzio") of the Treasury and the Banca d'Italia in 1981, after which the Banca d'Italia was no longer obliged to absorb all excess supply of short-term Treasury bills. This step decreased the scope for monetary financing of government deficits and increased the independence of the Italian Central Bank. Alesina adds the following countries: Denmark, New Zealand, Norway and Spain.

The index of Grilli, Masciandaro and Tabellini (1991) consists of two parts: political and economic independence. The first yardstick measures the capacity to choose the final goal of monetary policy; the second yardstick indicates the capacity of the central bank to choose its instruments of monetary policy independently. The degree of political independence is determined by using eight criteria:

1. Is the governor not appointed by the government?
2. Is the governor appointed for more than five years?
3. Are all policy board members not appointed by the government?
4. Is the policy board appointed for more than 5 years?
5. Is there no mandatory participation of a government representative in the policy board?
6. Is government approval of monetary policy required?
7. Are there statutory requirements that the bank pursues monetary stability among its goals?
8. Are there legal provisions that strengthen the bank's position in case of conflict with the government?

Germany and the Netherlands score highest on this political-independence index. Grilli et al. also look at economic independence. The numerical coding for this measure is determined on the basis of the following eight items:

1. Is the direct credit facility not automatic?
2. Is the direct credit facility based upon the market interest rate?
3. Is the direct credit facility temporary?
4. Is the direct credit facility of a limited amount?
5. Does the central bank not participate in the primary market for public debt?
6. Is the discount rate determined by the central bank?
7. Is banking supervision not entrusted to the central bank?

8. Is banking supervision not entrusted to the central bank alone?

Again, the Deutsche Bundesbank appears to be the most independent central bank.

With respect to the last two criteria of the economic independence measure, some additional comments are in order. In the debate on the question of whether central banks should be entrusted with prudential supervising powers, various arguments have been put forward in support of both views (see Roll et al. [1993]). The most important argument in favour of separating monetary policy and prudential supervision functions is based on the fear that the central bank's anti-inflationary stance would be undermined by a large injection of liquidity, aimed at keeping one or more important financial institutions from going under. However, even if banking supervision is performed by another agency, the central bank would have to intervene if one of the larger banks would go bankrupt. De Haan and Sturm (1992) therefore conclude that whether a central bank is entrusted with banking supervision or not, has little impact on its independence.

On the basis of the following features, Eijffinger and Schaling (1992, 1993a) have developed an alternative measure for central bank autonomy:

1. Is the bank the sole final policy authority; is this authority not entrusted to the central bank alone, or is it entrusted completely to the government?
2. Is there no government official (with or without voting power) on the bank policy board?
3. Are more than half of the policy board appointments made independently of the government?

If the central bank has the sole responsibility for monetary policy, a country gets a double score. In case of joint responsibility, it gets a normal score, and if only government is responsible, it gets no score. In case of an affirmative answer to questions 2 and 3, a country receives a normal score. Eijffinger and Schaling add one to the total score so that the least independent central bank gets a score of one, and the most independent bank receives a score of five.

The measure of Cukierman (LVAU) is also based upon interpretation of various elements of central bank laws. These legal characteristics are grouped into four clusters:

1. The appointment, dismissal, and term of office of the chief executive officer (CEO) of the bank, usually the governor:
   a) Term of office (too);
   b) Who appoints CEO (app)?
   c) Dismissal of CEO (diss);
   d) May CEO hold other offices in government (off)?
2. The policy formulation cluster:
   a) Who formulates monetary policy (monpol)?
   b) Who has final word in resolution of conflict (conf)?
   c) Role in the government's budgetary process (adv);
3. The objectives of the central bank (obj);
4. Limitations on the ability of the central bank to lend to the public sector:
   a) Advances (lla);
   b) Securitized lending (lls);
   c) Terms of lending (ldec);
   d) Potential borrowers from the bank (lwidth);
   e) How are limits defined (ltype)?
   f) Maturity of loans (lmat);
   g) Which interest rate is being applied (lint)?
   h) Is the central bank prohibited from buying or selling

government securities in the primary market (lprim)?

For each of these variables Cukierman discerns various possibilities, which get a numerical coding between zero and one. For instance, in the third cluster the following possibilities exist (the numerical coding is shown in parentheses): price stability is the major or only objective and in case of conflict the central bank has the final word (1); price stability is the only objective (0.8); price stability is one goal, with other compatible objectives (0.6); price stability is one goal, together with other, potentially conflicting objectives (0.4); the charter does not state any objective (0.2); and finally, stated objectives do not include price stability (0).

It follows from the foregoing analysis that Cukierman applies a certain weighting scheme. To assess the overall independence of a central bank, this author has computed two alternative indices: an unweighted index (LVAU), calculated as a simple average of the codings of the variables obtained in a first round of aggregation, and a weighted index. The first round of aggregation includes the following procedure. The variables in the first cluster are aggregated into a single variable using the unweighted mean of the various criteria. The three criteria in the second cluster are combined into a new variable by computing a weighted mean (the weights are: 0.25, 0.5 and 0.25, respectively). The last four variables in the fourth cluster are aggregated into a single variable, using the unweighted mean. This gives a total of eight variables (the three new ones and the five remaining variables). Cukierman's index LVAU is the unweighted average of these variables. Cukierman, Webb and Neyapti (1992) present a weighted average of these variables (LVAW).